Patent Claims

1. Method for the differential-diagnostic early detection and detection, for the assessment of the severity, and for the assessment of the success of a therapeutic treatment of sepsis and severe infections, in particular sepsis-like systemic infections, characterized in that the content of at least one peptide prohormone other than procalcitonin and/or of a partial peptide derived therefrom, which is not the mature hormone obtainable from said peptide prohormone, is determined in a sample of a biological fluid of a patient, and the presence of a sepsis or sepsis-like systemic infection, its severity and/or the success of a therapeutic treatment are determined from the detected presence and/or amount of the determined peptide prohormone.

2. Method according to Claim 1, characterized in that the peptide prohormone is selected from the group consisting of pro-gastric-releasing peptide (proGRP), pro-endothelin-1 (pro-END), pro-brain-natriuretic peptide (pro-BNP), pro-atrial-natriuretic peptide (pro-ANP or pro-ANF), pro-leptin, pro-neuropeptide-Y, pro-somatostatin, pro-neuropeptide-YY or pro-adrenomedullin (pro-ADM).

3. Method according to either of Claims 1 and 2, characterized in that by the determination a partial peptide is detected which differs from the known complete peptide prohormone by the lack of a dipeptide at the amino terminus thereof, as it can be cleaved off by dipeptidyl-aminopeptidase IV (DP IV or DAP IV or CD26) from the end of a peptide.

4. Method according to Claim 3, characterized in that

the dipeptide is an Xaa-Pro dipeptide, Xaa representing the amino-terminal amino acid of the complete prohormone peptide.

5. Method according to any of Claims 1 to 4, characterized in that said determination of said peptide prohormone is carried out as an immunoassay or precipitation assay, and a diagnosis of the presence of sepsis or severe sepsis-like infections is made if the concentration of the peptide prohormone determined is significantly higher than the values for the same prohormone observed in healthy normal persons.

6. Method for the differential-diagnostic early detection, for the detection, and for the assessment of the severity and for the assessment of the success of a therapeutic treatment of a sepsis and sepsis-like systemic infections, characterized in that the content of dipeptidyl-peptidase IV (DP IV; dipeptidyl-aminopeptidase IV; DAP IV or CD26) is determined in a serum or plasma sample of a patient and the presence of a sepsis or sepsis-like systemic infection is diagnosed on the basis of a concentration of dipeptidyl-peptidase IV which is significantly reduced compared with healthy normal subjects.

7. Procalcitonin 3-116 prepared by genetic engineering.

8. Method for the preparation of procalcitonin 3-116 by genetic engineering, comprising

- inserting a cDNA sequence coding for the 114 amino acids of procalcitonin 3-116 into a suitable vector,
- transforming suitable host cells with the vector formed so that they express procalcitonin 3-116,

- working up said host cells,
- recovering a fraction containing the expressed procalcitonin 3-116, and
- obtaining from said fraction said procalcitonin 3-116 as a product prepared by genetic engineering in at least 90% purity by chromatographic purification.

9. Use of recombinant procalcitonin 3-116 as a calibrator in procalcitonin assays or for the preparation of therapeutics for the prevention and treatment of sepsis and sepsis-like systemic infections.

10. Method for the measurement of procalcitonin 3-116 as an indication-independent diagnostic parameter.